UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,829	11/20/2003	Meredith J. Ringel	MERL-1506	8583

22199 7590 05/25/2007

MITSUBISHI ELECTRIC RESEARCH LABORATORIES, INC.
201 BROADWAY
8TH FLOOR
CAMBRIDGE, MA 02139

EXAMINER	
SHERMAN, STEPHEN G	
ART UNIT	**PAPER NUMBER**
2629	

MAIL DATE	DELIVERY MODE
05/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,829	RINGEL ET AL.	
	Examiner	Art Unit	
	Stephen G. Sherman	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 April 2007 has been entered. Claims 1-23 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-5 and 7-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz et al. ("Diamondtouch: A multi-user touch technology", 2001) in view of Myers et al. ("Collaboration Using Multiple PDAs Connected to a PC", 1998).

Regarding claim 1, Dietz et al. disclose a graphic multi-user interface, comprising:

a touch sensitive surface (Figures 1 and 2 both show a touch sensitive surface.);

means for displaying a plurality of items on the touch sensitive surface (Figures 10-12 show that the touch sensitive surface has images displayed on it and therefore there is a means for displaying a plurality of items, like the bubbles shown in Figure 12, on the surface.);

means for generating, simultaneously, a plurality of sequences of touch samples when a plurality of users simultaneously touch the touch sensitive surface, each sequence of samples being identified with a particular user generating the sequence of samples (Figure 2 and page 220, left column states that the system detects multiple,

simultaneous touches and also detects which user is touching each point. See also page 221, left column last paragraph and page 224, right column, second paragraph, which explain that each user has their own touch samples taken for each of them even when the users are simultaneously touching the surface.);

means for associating each sequence of samples with a particular item (Figure 12 and page 224, left column last paragraph explain that in a game developed each user has their own "bubbles" which appear on the table and they get points for popping bubbles of their own color, which means that each of the user's sequence of samples will be associated with a particular item.), and

means for generating an event for each associated sequence of samples (Figure 12 and page 224, left column last paragraph explain that when a user touches their own colored "bubble" they get points, they lose points for popping other players bubbles, etc., which means that an event occurs, i.e. the popping of the bubble and the points awarded, for each associated sequence of samples. Dietz et al. also state the game is used only as a demonstration of the capabilities of DiamondTouch, and page 225, right column lines 12-44 explain that the technology is to be applied to collaborative work environments.).

Dietz et al. fail to teach that the particular item has an associated state and policy, and also fails to teach means for determining a decision with respect to a conflict affecting a next state of the particular item according to the events from the plurality of users, the state and the policy.

Myers et al. disclose a graphic multi-user interface containing particular items that have associated states and policies (Page 9, left column, lines 5-24 explain that each user has a user-id parameter, which each item on the screen is able to accept, and that each item on the screen also has either the parameter "anyone" or "one-at-a-time".), and

means for determining a decision with respect to a conflict affecting a next state of the particular item according to the events from a plurality of users, the state and the policy (Page 9, left column, lines 5-24 explain that based upon whether an item is marked as "one-at-a-time" or "anyone" determines whether the users can simultaneously use the item or not. For example, if an item is marked as "one-at-a-time" and user 1 is current using the item, then user 2 will not be able to use the item until user 1 is done, even if user 2 touches the item at the same time user 1 is touching it. This resolves the conflict between the two users simultaneously wanting to use a particular item, and this conflict is resolved based upon the action by the users, i.e. of simultaneous touching, and the state, i.e. which user-id is associated with it, and the policy, i.e. whether the item is "anyone" or "one-at-a-time".).

Therefore, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the user interaction principles taught by Myers et al. with the collaborative input device taught by Dietz et al. such that the collaborative environment of Dietz et al. would associate a user-id with each user and a state and policy with each item in order to allow for certain items to be manipulated by one user at any particular instant in time so that conflict between users can easily be resolved.

Regarding claim 2, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Myers et al. also discloses that the state of the item includes an owner (Page 9, left column, lines 5-24 explain that each user has a user-id parameter.).

Dietz et al. and Myers et al. fail to teach that the state of the item includes an access code, a size, an orientation, a color and a display location.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the state of the item also includes an access code, a size, an orientation, a color and a display location in order to provide for the usability of the touchable icons on the touch panel.

Regarding claim 3, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Myers et al. also disclose in which the particular item is active when a particular user is touching the particular item (Page 9, left column, lines 5-24).

Regarding claim 4, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. also disclose in which one particular user generates multiple sequences of samples for multiple touches (Figures 2 and 12 and page 224, left column, last paragraph explains that each user touches the screen to "pop" bubbles,

which means that each time the user touches a sequence is generated which means that multiple sequences of samples are generated for multiple touches.).

Regarding claim 5, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. also disclose that each sample includes a user ID, a time, a location, an area and a signal intensity of the touch (As explained above, a user ID is already associated with a sample. It would also be inherent that each sample contains a time, location, area and intensity such that the touch can be identified properly for the particular function.).

Regarding claim 7, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the policy is global when the conflicts affects an application as a whole.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the policy is global when the conflicts affects an application as a whole since global is a term used to encompass all of something.

Regarding claim 8, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the policy is element when the conflicts affects a particular item.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the policy is element when the conflicts affects a particular item since element is a term that relates to a singular object.

Regarding claim 9, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. also disclose that the policy is privileged user depending on privilege levels of the plurality of users (Page 225, right column lines 28-34).

Regarding claim 10, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that each user has an associated rank and the decision is based on the ranks of the plurality of users.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that each user has an associated rank and the decision is based on the ranks of the plurality of users because this would allow users with more authority, such as a boss at a meeting, to have more control over items then his employees.

Regarding claim 11, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the policy is based on a votes made by the plurality of users.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the policy is based on a votes made by the plurality of users because determining an action to occur is often times voted on by people to determine what is to be done.

Regarding claim 12, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Myers et al. also disclose that the policy is release, and the decision is based on a last user touching the particular item (Page 9, left column, lines 5-24).

Regarding claim 13, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision is based on an orientation of the particular item.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision is based on an orientation of the particular item because the orientation would indicate which user the item is pointing towards.

Regarding claim 14, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision is based on a location of the particular item.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision is based on a location of the particular item because if an item is closer to one user then another it would mean that the particular user would have more of a right to the object.

Regarding claim 15, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision is based on a size of the particular item.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision is based on a size of the particular item because a size would indicate whether the item is meant to be viewed by all people using the touch device or whether only one user is meant to view the item.

Regarding claim 16, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Myers et al. also disclose that the graphic multi-user interface further comprises means for displaying an explanatory message related to the decision (Page 8, right column, lines 6-10).

Regarding claim 17, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision is based on a speed of the events.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision is based on a speed of the events because the speed would indicate how fast the touch panel was touched therefore determining which user was fasted to touch a particular item.

Regarding claim 18, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision is based on an area of the events.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision is based on an area of the events because if an item is in an area closer to one user than another that user would have more of a right to the object.

Regarding claim 19, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1, in which the decision is based on a signal intensity of the events (The examiner understands that since the detection of the touch events always depends on the intensity of the touch signal, that the decision will inherently always be based upon the intensity of the signals received.).

Regarding claim 20, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision tears the particular item into multiple parts.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision tears the particular item into multiple parts because this would allow for a life-like feel to the touch panel since a document tearing in half would occur if the event took place with a real document.

Regarding claim 21, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 1.

Dietz et al. and Myers et al. fail to teach that the decision duplicates the particular item.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the decision duplicates the particular item because

this would allow for multiple users to view the same item at the same time without conflict.

Regarding claim 22, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 7.

Dietz et al. and Myers et al. fail to teach that the application has a global state, and further comprising: allowing a change to the global state only if all times are inactive, no users are touching the touch sensitive surface or any of the plurality of items.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that the application has a global state, and further comprising: allowing a change to the global state only if all times are inactive, no users are touching the touch sensitive surface or any of the plurality of items because a global state would effect the entire system and if the system is being used the system cannot be changed so the change would need to occur when all of the users are not touching the panel.

Regarding claim 23, this claim is rejected under the same rationale as claim 1.

6. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz et al. ("Diamondtouch: A multi-user touch technology", 2001) in view of Myers et al.

("Collaboration Using Multiple PDAs Connected to a PC", 1998) and further in view of Geaghan et al. (US 2003/0063073).

Regarding claim 6, Dietz et al. and Myers et al. disclose the graphic multi-user interface of claim 5.

Dietz et al. and Myers et al. fail to teach in which each sample includes a speed and trajectory of the touch.

Geaghan et al. disclose a graphic multi-user interface in which each sample includes a speed and trajectory of the touch (Figure 2 and paragraph [0053], the rate of change is the speed and trajectory of the touch.).

Therefore, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the teachings of Geaghan et al. with the graphic multi-use interface taught by the combination of Dietz et al. and Myers et al. in order to more accurately identify the touch event.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shen et al. (US 6,545,660) disclose a system that enables multiple users to interact with a picture presentation.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

21 May 2007